



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT Enterprise Energy Efficiency (3E)

**IQC Contract # EPP-I-00-03-00004-00
Task Order # 12**

**USAID 3E Presentation, EE Year in Tuzla Canton – Strengthening capacities in
municipalities**

Authors: Project Team

June 19, 2013

Implemented by:

Advanced Engineering Associates International, Inc. (AEAI)



USAID
FROM THE AMERICAN PEOPLE

“This Presentation EE Year in Tuzla Canton – Strengthening capacities in municipalities is made possible by support from the American People sponsored by United States Agency for International Development (USAID). The contents of this presentation were prepared by and are the sole responsibility of Advanced Engineering Associates International, Inc., and do not necessarily reflect the views of USAID or the United States Government.”



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

Activities on strenghtening capacities in the Canton Tuzla municipalities

Fahrudin Kulić
USAID 3E Chief Engineer

June 19, 2013



ENERGY CONSUMPTION IN THE TUZLA CANTON

ESTIMATE (2012)

- Buildings and areas under municipality competence (350) and street lighting - 5 millions KM energy costs
- Residential sector
 - 240 millions KM energy costs



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

HOW PUBLIC ADMINISTRATION CAN INFLUENCE THE REDUCTION OF ENERGY CONSUMPTION

- Development of measuring and regulating energy consumption in all public buildings – managing energy consumption / energy management
- Use of the best available energy measures when renovating public buildings
- Utilization of the low energy and passive construction standards in new buildings
- Introduction of the energy consumption based paying system
- Promotion of energy efficiency measures
- Introduction of energy efficiency in the public procurement solicitations



WHY MANAGE ENERGY CONSUMPTION?

- **20% EE increase in construction in Tuzla Canton = 50 millions KM / per year**
- One of the BiH obligations through implementation of the Treaty for Establishment of Energy Community is introduction of the energy management systems in the public sector



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

SYSTEMATIC MANAGEMENT OF ENERGY CONSUMPTION

- Systematic management of energy consumption means continuous monitoring of energy consumption and taking adequate measures with the aim to minimize the energy costs (increasing energy efficiency)
- It means: monitoring energy consumption, analyze and interpret the analysis results so that the following information is known at all times:

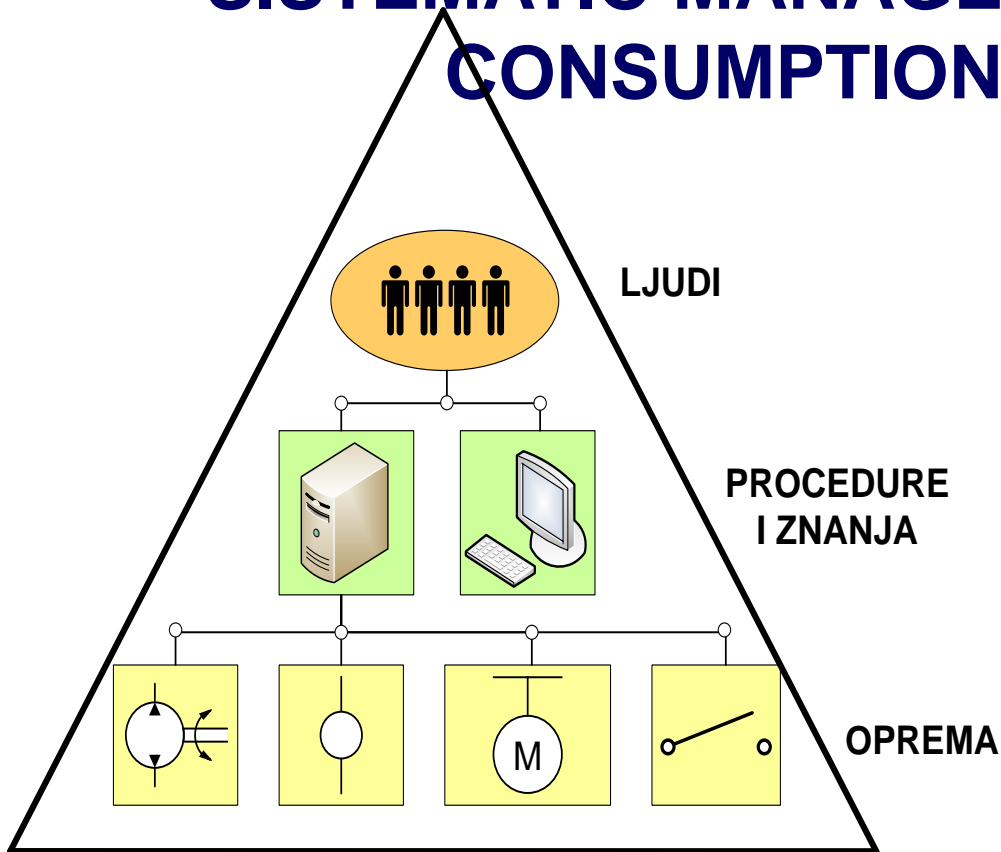
WHERE	we spend the energy
HOW	we spend the energy
WHICH	energy generating product are we using
HOW MUCH	energy we are spending; what is its cost
WHO	is in charge of energy consumption management
WHAT	can we do to reduce energy consumption



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

SYSTEMATIC MANAGEMENT OF ENERGY CONSUMPTION - CONCEPT



Capacity development
(trained and motivated people)

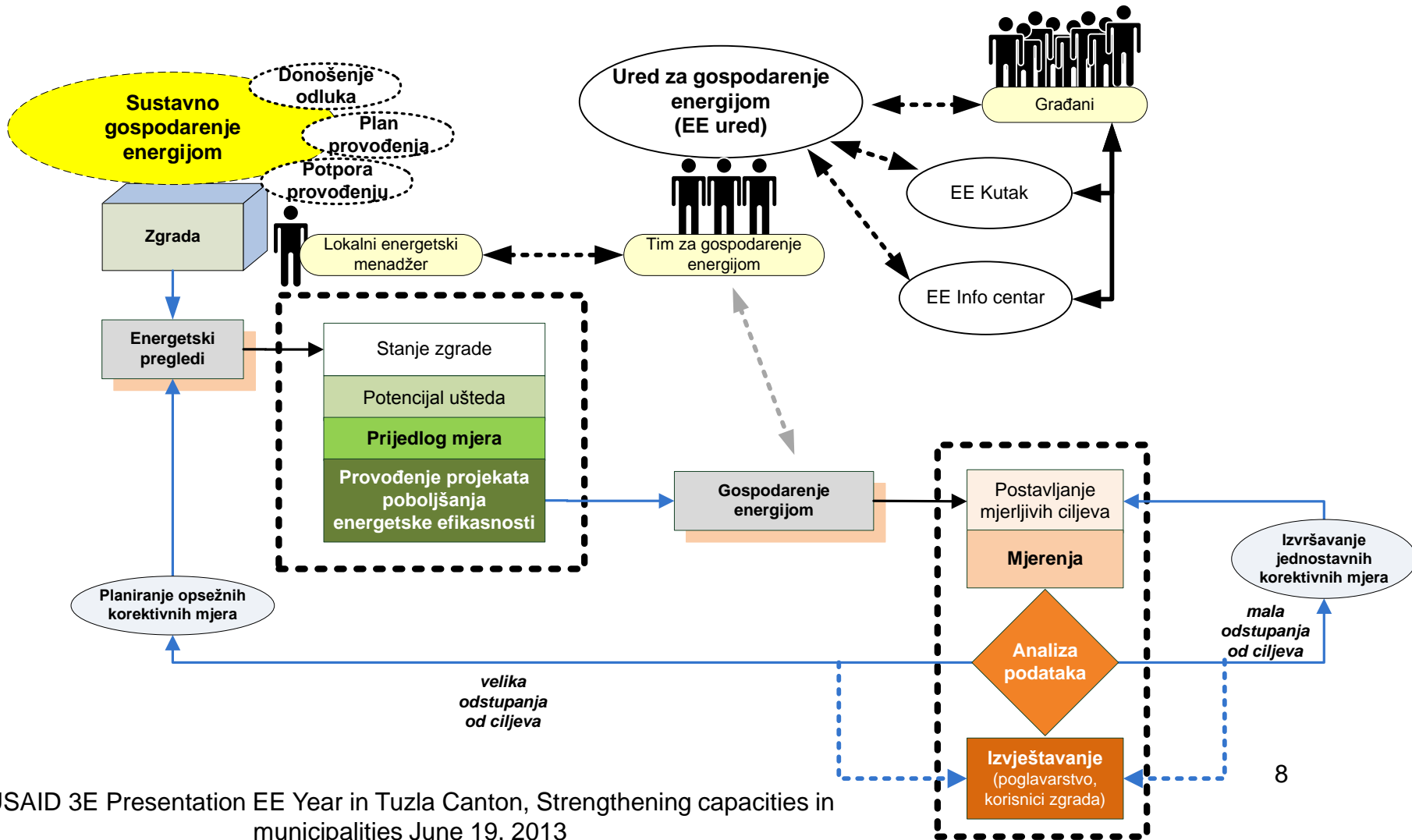
Organizational structure
(responsibilities and aims)

Implementation
(Measuring and certification of the results)

AIM → Reducing energy costs!



EE INCREASE IN PUBLIC BUILDINGS

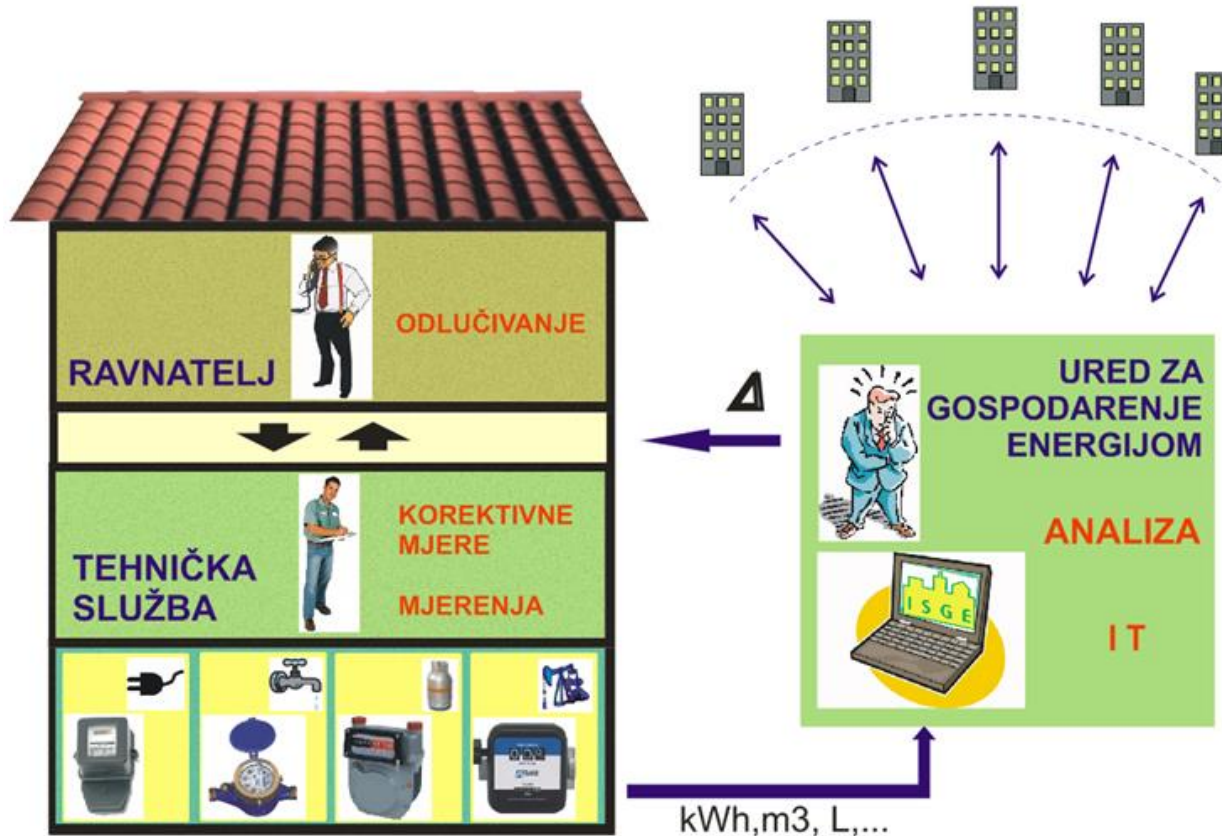




USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

EE INCREASE IN PUBLIC BUILDINGS





USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

AIMS

- 1. Monitoring and control over energy consumption!**
- 2. Identification of places with unnecessary or excessive energy consumption and possible improvement measures**
 - Identification of investment and saving potential
- 3. Implementation of EE improvement projects**
 - Actualization of financial and energy savings
 - Start up of construction and ancillary sectors through implementation of EE projects
 - Reduction in environment pollution



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

Steps in setting up the Systematic Management of Energy Consumption in local government

- Establishment of Energy Management office
- Establishment of building registry using Energy Management Information System (EMIS)
- Education (workshops, seminars, courses)
- Implementation of energy audits (identification and preparation of EE measures)
- Implementation of EE measures and verification of the achieved savings
- Informing the decision makers and public about:
 - Achieved results
 - Possibilities for implementation of EE measures



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

Implementation of Systematic Management of Energy Consumption in local government

- Ensure necessary human resources for :
Implementation of energy audits / Collection and input of data in EMIS / Preparation of EE projects /
Implementation of EE projects
- Ensure necessary financial resources
- Set up continuous Systematic Management of Energy consumption



Building register in EMIS

Početna Upravljanje korisnicima Upravljanje objektima Izveštaji i grafovi

Objekti Objekti po etiketi Objekti po korisniku Objekti - zgrade Ciljevi Računi Mjerila

Objekti Popis računa i mjerila

Objekti MZ Mionica - Centar 2 [BA-76250-0033-1] - Mionica 2, Gradačac

Svi zapisi Jedan zapis Korisnici Google karte Mjerna mjesta Računi Grafovi računa Očitavanja

--- [Filter icons]

ISGE šifra	Naziv objekta	Adresa	Projekt	Poštanski broj	Naziv grada/mjes
sadrži	sadrži	sadrži	sadrži	je jednak	ne sadrži
					gradačac
<input type="checkbox"/> BA-76250-0024-1	Centar za Socijalni rad	Raifa Šaldića 1		76 250	Gradačac
<input type="checkbox"/> BA-76250-0025-1	Dječije Obdanište Kolibri	Hadžiefendijina bb		76 250	Gradačac
<input type="checkbox"/> BA-76250-0026-1	Centar za kulturu "Ahmed Muradbegović"	Hadžiefendijina bb		76 250	Gradačac
<input type="checkbox"/> BA-76250-0026-1-A	Javna Biblioteka Alija Isaković	Hadžiefendijina bb		76 250	Gradačac
<input type="checkbox"/> BA-76250-0026-1-B	Radio Gradačac	Hadžiefendijina bb		76 250	Gradačac
<input type="checkbox"/> BA-76250-0027-1	Ex-Crvena Škola	Titova 1		76 250	Gradačac
<input type="checkbox"/> BA-76250-0028-1	Katastar	H. Kapetana Gradaš		76 250	Gradačac



USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

Technical support for EE and RES

- Studies – Energy savings through street lighting management
- Installation of systems for remote monitoring of energy consumption
- Feasibility studies for biomass remote heating systems
- Project documentation for energy efficient reconstruction of remote heating boiler house
- Studies – Energy savings in the water supply system via optimization of pump operations
- Energy audits of the selected buildings



System for remote monitoring of energy consumption at MEF in Sarajevo



2 mjerila utroška
prirodnog gasa



3 vodomjera



9 senzora temp.
(1 vanjski)



6 mjerila utroška
elektr. energije

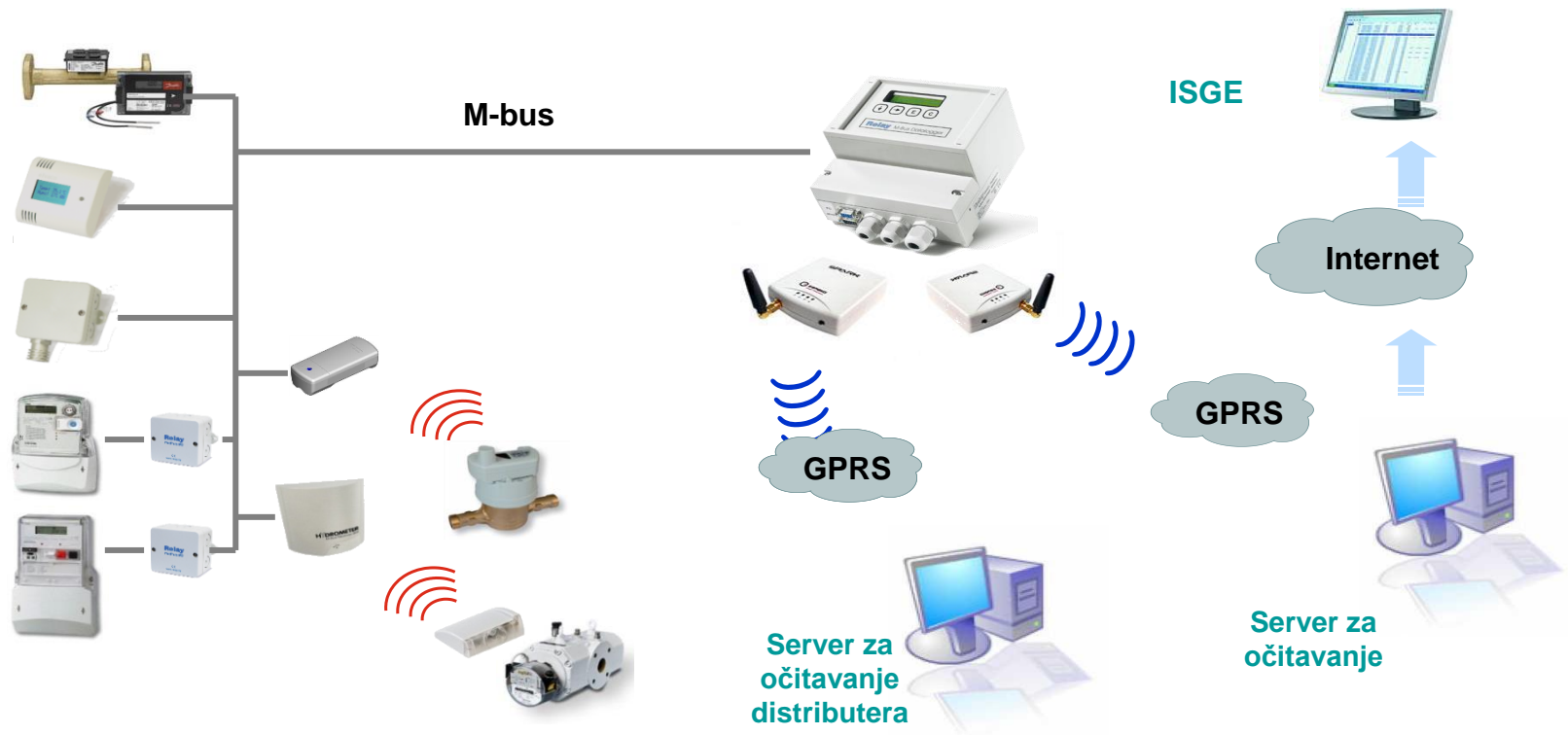


3 mjerila utroška
toplotne energije





System for remote monitoring of energy consumption at MEF in Sarajevo





Examples of implemented EE measures:



MEF building in
Sarajevo before
implementation of EE
measures



- Monitoring and verification system
- New gas condensation boiler
- Window replacement
- Thermal insulation of the facade



Examples of implemented EE measures:

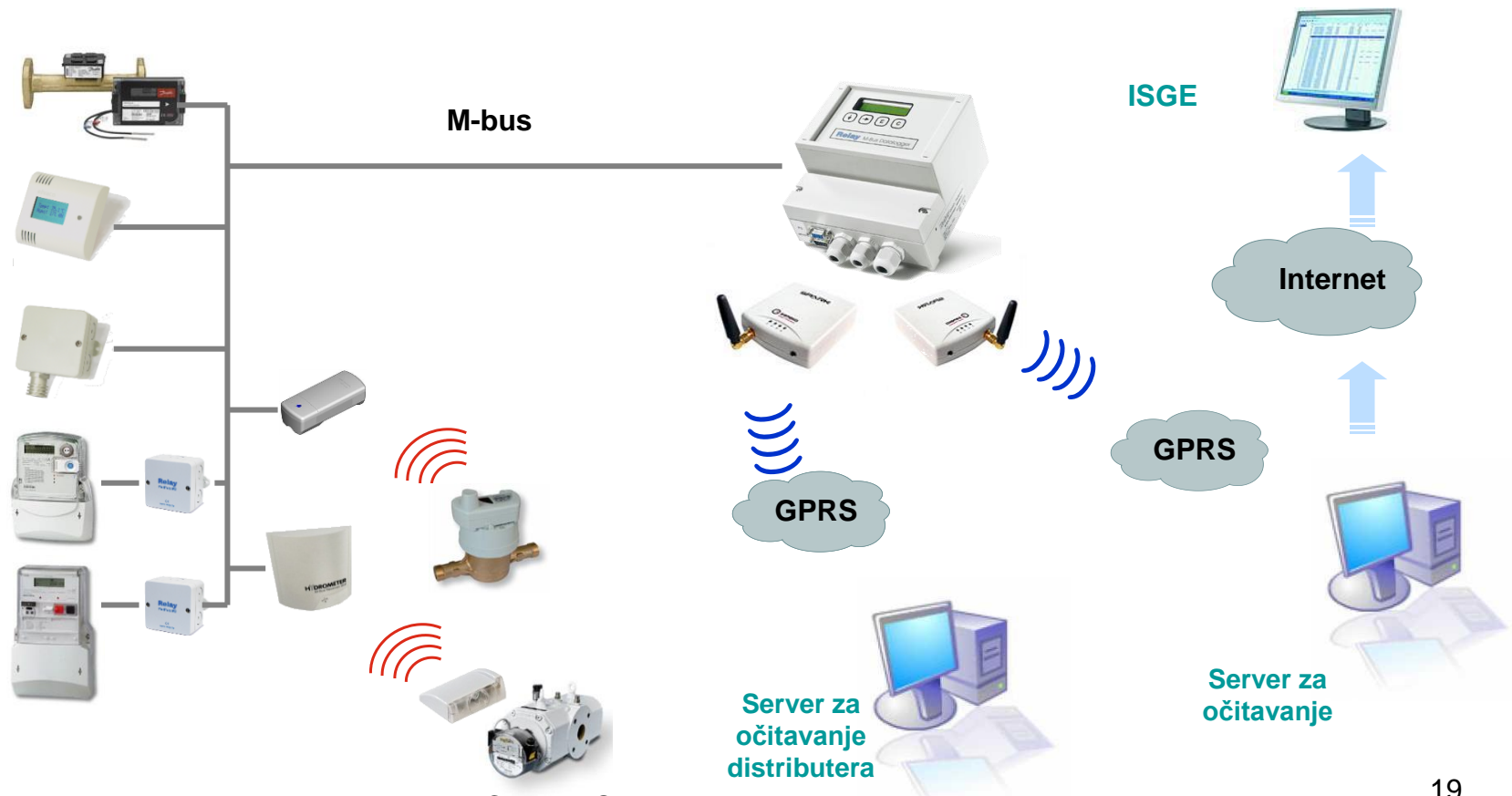


MEF building in Sarajevo after
implementation of EE
measures





System for remote monitoring of energy consumption at MEF in Sarajevo





Examples of implemented EE measures

Sports hall in Livno before implementation of EE measures



- Replacement of windows and part of the roof/facade cover
- Connection to the remote heating network (biomass)
- Reconstruction of the heating system, PTV and ventilation
- System for monitoring and verification





Examples of implemented EE measures:

Sports Hall in Livno after implementation of EE measures





USAID
FROM THE AMERICAN PEOPLE

BOSNIA-HERZEGOVINA

THANK YOU!

Fahrudin Kulić
fkulic@eee.ba

www.eee.ba